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Technical bulletin

SWOP Off-Press Proof Application Data Sheet for Creo Synapse InSite Proofing Solution

The SWOP[®] Review Committee has approved the use of off-press proofs as input material to publications. SWOP specifications recommend that: "The appearance of an off-press proof used in this application must closely simulate a SWOP Certified Press Proof." See other explanations and recommendations as outlined on pages 21 and 47 of the 2001 Ninth Edition of the SWOP Specifications for Web Offset Publications.

I. Manufacturer

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Certified - February 2005

II. Product

Synapse[®] InSite

III. Introduction

Creo Synapse InSite is an Internet portal into the Brisque[®] and Prinergy[®] prepress environments, providing users with secure, controlled Web access to print jobs and streamlining the process of job submission, job-status tracking, online collaboration, and remote proofing or approval.

With the Synapse InSite Color feature, users can select custom or standard color targets, including one based on ANSI CGATS TR001, as suggested by SWOP.

IV. Control Guide

SWOP specifies that a process control guide such as the GATF/SWOP Proofing Bar be supplied on every off-press proof in order to ascertain that the proof has been made consistent with the Application Data Sheet. As a minimum, this guide must contain solids of the primary process colors and two-color overprint, as well as a 25 percent, 50 percent, and 75 percent tint in 133-line screen ruling of each of the process colors. Synapse InSite provides a built-in process to confirm that the soft proof conforms to SWOP standards by measuring a virtual color bar with these tint values on the monitor.

V. System Components

The following components and limited processing procedures must be used with Synapse InSite in order to achieve conformance with this Application Data Sheet.

Server:

- Synapse InSite server 4.1 or later with Synapse InSite Color license

Remote Client:

- Apple® Power Mac G4 or G5
- Mac OS® X 10.3.7 or later, including Safari Web browser
- Creo Monitor Calibration tool
- EIZO® ColorEdge® CG21 LCD graphics monitor
- GretagMacbeth Eye-One Design, Eye-One Photo, Eye-One Proof, Eye-One XT, Eye-One Pro monitor profiling device
- Optional GTI (Graphic Technology, Inc.) dimmable viewing booth using GTI T8 light tubes (for example, GTI SOFV-1ex), if comparing hard to soft proofs

Environment

The Synapse InSite remote client hardware should be installed in a room with controlled lighting. This means controlling the amount and quality of light which reflects off the front surface of the monitor (front surface glare) as well as controlling the ambient lighting behind the monitor relative to the viewer.

The level of illumination when viewing a black screen should be less than 5 percent of the level of illumination when viewing a white screen. A monitor hood attached to the monitor may cut down front surface glare caused by overhead or side lighting. Ensuring that no bright light sources shine directly onto the front surface of the monitor should cut down glare from specular reflection into the viewer's eyes.

The room walls should be a neutral gray color, and the room lighting should be D50 color. The room walls must not be brightly colored. The room lighting must not be drastically off-white (for example, not daylight or tungsten halogen). It is preferred to have the room dimmed behind the monitor.

Viewing

The viewing angle can affect the perception of color when using LCD-type displays. The user should only judge color when directly in front of, and perpendicular to, the monitor. If two or more people want to use the same monitor simultaneously, they should be aware that the perception of paper tint and pastel colors tends to vary as the viewing angle deviates from the perpendicular. Saturated colors, on the other hand, are fairly resistant to viewing angle.

The light booth should be dimmed to the same level as the monitor for proper comparison. For the GTI SOFV-1ex booth, a setting of 46-52 percent on the digital dimmer control is typical.

System Setup for Making a SWOP Soft Proof

1. Ensure that the Synapse InSite server is running and connected to the Internet.
2. Log in as a staff user and select the page or pages for which SWOP proof viewing is desired. For each page, select **SWOP** as the color target. Ensure that users have color management rights assigned.
3. Turn on the remote client computer and monitor, allowing at least 30 minutes for the monitor to stabilize before attempting any calibration or measurements. Also turn on the light booth at this time if a hard-soft proof comparison is desired.
4. Start the Creo Monitor Calibration tool after the monitor is stabilized. Ensure that the Eye-One monitor profiling device is plugged into a USB port that has sufficient power. Select **Calibrate**, and follow the on-screen instructions for mounting the Eye-One on the monitor. Calibration is fully automatic after this point.
5. Start the Safari™ web browser included as part of the standard Mac OS X.
6. Browse to the appropriate Synapse InSite server URL and log in through the browser as a user with color management rights.
7. Browse through the job folder hierarchy to find the pages that have the desired color targets (SWOP proofs). Double-click the page icon to launch the Smart Review client. See the Synapse InSite online help for details about how to use the annotation and other browsing tools within the Smart Review environment.
8. The page content as displayed will be in the correct color rendition. A text label indicating the color target (SWOP) appears in the bottom-right corner of the screen.
9. For proper color judgment, select **Full Screen Preview** in the top right of the Smart Review window. This will remove all toolbars, place a 2.5 cm (1 in).paper tint surround around the entire image, and set the scale to 1:1 physical size, useful for comparing to hard copy.
10. Click anywhere on the screen to recover the Smart Review toolbars. The user can launch the Color Conformance Check (top right of Smart Review toolbar) to measure the SWOP digital color bar as displayed on the monitor. The conformance check is as automatic as monitor calibration. If the monitor is out of tolerance, monitor calibration should be repeated while carefully checking that the physical setup is correct (for example, monitor has stabilized and profiling device is placed correctly).

VI. Finishing Procedures

No finishing procedures are necessary with Synapse InSite Color.

VII. Finished Proof Characteristics

When properly produced following this Application Data Sheet, measurement of the colors for the SWOP digital color bar color patches will conform to those listed in the table on page 5.

To measure the color bar, run the Color Conformance Check from within the Synapse InSite Smart Review soft proofing interface. This will prompt the user to attach the Eye-One profiling device to the monitor through a

guided wizard interface. The target values listed in the table are stored within the Synapse InSite proofing system and compared with the measurements. If the peak ΔE_{94}^* between the measurement and target values is less than 3 for all patches, a green check mark will appear, indicating that the digital proof is within the Application Data Sheet specification of color matching. It is also possible to display a list of the actual measured values for each patch.

If a red “X” appears, the peak ΔE_{94}^* for one or more patches is greater than 3. Recheck that all proper procedures have been followed for selecting the SWOP color target, calibrating the monitor, and measuring the digital color bar.

When comparing a Synapse InSite soft proof to a hard proof, it is important to ensure that the light booth has been dimmed to an appropriate level (see Section V).

Color	Input Tone Value	L*	a*	b*
Paper	0	90.2	0.2	5.0
Black	100	15.8	-0.6	1.8
Black	75	38.8	0.0	-0.9
Black	50	55.0	-0.3	-0.3
Black	25	70.8	-0.4	1.8
Cyan	100	53.8	-27.2	-39.8
Cyan	75	61.2	-29.3	-29.0
Cyan	50	68.3	-21.8	-19.2
Cyan	25	77.4	-11.7	-9.2
Magenta	100	45.3	67.7	-3.0
Magenta	75	53.9	51.8	-1.4
Magenta	50	63.6	33.8	-0.2
Magenta	25	75.5	17.4	1.1
Yellow	100	86.4	-8.8	83.8
Yellow	75	85.4	-5.6	67.7
Yellow	50	86.3	-4.6	47.1
Yellow	25	88.5	-3.7	27.5
Red	100 M 100 Y	47.1	66.1	41.6
Red	75 M 75 Y	53.0	46.4	33.0
Red	50 M 50 Y	62.9	30.4	29.0
Red	25 M 25 Y	74.8	15.5	20.0
Green	100 C 100 Y	51.2	-56.4	30.2
Green	75 C 75 Y	58.5	-47.4	28.0
Green	50 C 50 Y	66.0	-32.4	20.9
Green	25 C 25 Y	76.1	-16.3	11.7
Blue	100 C 100 M	23.7	23.0	-42.3
Blue	75 C 75 M	33.5	25.2	-37.7
Blue	50 C 50 M	47.3	16.4	-26.4
Blue	25 C 25 M	64.6	7.1	-13.9
Gray	75 K 75 C 63 M 63 Y	16.8	-0.8	1.7
Gray	50 K 50 C 39 M 39 Y	34.2	0.0	1.5
Gray	25 K 25 C 16 M 16 Y	55.1	-1.4	-0.1

VIII. Sample Proof

Creo has demonstrated Synapse InSite soft proofs which conform to this Application Data Sheet to the SWOP Technical Committee for their inspection and verification.

About Creo

Creo is a world leader in solutions for the graphic arts industry. Core product lines include image capture systems; inkjet proofers; thermal imaging devices for films, plates, and proofs; professional color and copydot scanning systems; workflow management software; and proofing and printing consumables. Creo is also an original equipment manufacture supplier of on-press imaging technology, components for digital presses, and color servers for high-speed, print-on-demand digital printers. Creo trades under the symbols CREO on NASDAQ and CRE on the Toronto Stock Exchange. www.creo.com

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